AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for searching for a match to a sequence of bits, comprising:

selecting a predetermined number of bits from a data stream received via a communication adaptor;

applying a message digest function to the selected bits;

determining whether a pattern of bits resulting from the application of the message digest function to the selected sequence of bits matches a predefined pattern stored in a search table, the search table including at least one entry pointing to a sub-table of the search table; [[and]]

facilitating communication with a remote device via the communication adaptor in accordance with a matched pattern of bits in the received data stream;

comparing the selected bits from the data stream to a second predefined pattern stored in the search table when the resulting pattern of bits matches the predefined pattern; and

identifying the selected bits from the data stream as a match when the selected bits from the data stream match the second predefined pattern, wherein the search table includes: a root table; at least one trie sub-table; at least one strand sub-table; at least one match sub-table; and at least one wildcard sub-table.

2. (Previously Presented) The method of claim 1, wherein the number of bits in the pattern of bits resulting from the application of the message digest function to the selected bits is less than the number of selected bits.

3. (Original) The method of claim 1, wherein the selected bits are contiguous.

4. (Original) The method of claim 1, wherein the bits represent numbers.

5. (Original) The method of claim 1, wherein the bits represent hexadecimal numbers.

6. (Original) The method of claim 1, wherein the bits represent binary numbers.

7. (Original) The method of claim 1, wherein the bits represent non-numeric information.

8. (Original) The method of claim 1, wherein the resulting pattern of bits matches the predefined pattern when the resulting pattern of bits is identical to the predefined pattern and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern.

9. (Original) The method of claim 1, further comprising comparing the resulting pattern of bits to a second predefined pattern to determine whether the resulting pattern of bits matches the second predefined pattern.

10. (Original) The method of claim 1, further comprising identifying the resulting pattern of bits as a match when the resulting pattern of bits matches the predefined pattern.

11-14. (Canceled)

15. (Currently Amended) An article of manufacture, comprising:

a computer readable medium having stored thereon instructions which, when executed by a processor, cause the processor to perform a method of searching for a pattern in a data stream of bits received via a communication adaptor, the method comprising:

select a first set of bits including a predetermined number of bits from the data stream;

apply a message digest function to a value represented by the first set of bits;

determine whether the value resulting from the application of the message digest function to the first set of bits matches a predetermined value stored in a search table;

if the resulting value does match the predetermined value, access a portion of the search table linked to the predetermined value and continue the search in accordance with the linked portion of the search table;

if the resulting value does not match the predetermined value, select a second set of bits, subsequent to the first set of bits and including the predetermined number of bits, from the data stream and continue the search in accordance with the second set of bits; [[and]]

facilitate communication with a remote device via the communication adaptor in accordance with a matched pattern of bits in the received data stream;

compare the selected bits from the data stream to a second predefined pattern stored in the search table when the resulting pattern of bits matches the predefined pattern; and

identify the selected bits from the data stream as a match when the selected bits from the data stream match the second predefined pattern, wherein the search table includes: a root table; at least one trie sub-table; at least one strand sub-table; at least one match sub-table; and at least one wildcard sub-table.

16. (Canceled)

17. (Previously Presented) The article of manufacture of claim 15, wherein the first set of bits are contiguous.

18. (Original) The article of manufacture of claim 15, wherein the resulting value matches the predefined value when the bits of the resulting value are identical to the bits of the predefined value and the bits of the resulting value are in the same order as the bits of the predefined pattern.

19. (Currently Amended) A computer, comprising:

a communication adaptor coupled to a network of remote nodes to receive a data stream from at least one of the remote nodes; and

a processor coupled to the communication adaptor to:

select a predetermined number of bits from the data stream received via said communication adaptor;

apply a message digest function to the selected bits;

determine whether a pattern of bits resulting from the application of the message digest function to the selected bits matches a predefined pattern of bits stored in a search table, the search table including at least one entry pointing to a sub-table of the search table; [[and]]

facilitate communication with a remote node via the communication adaptor in accordance with a matched pattern of bits in the received data stream;

compare the selected bits from the data stream to a second predefined pattern stored in the search table when the resulting pattern of bits matches the predefined pattern; and

identify the selected bits from the data stream as a match when the selected bits from the data stream match the second predefined pattern, wherein the search table includes: a root table; at least one trie sub-table; at least one strand sub-table; at least one match sub-table; and at least one wildcard sub-table.

20. (Original) The computer of claim 19, wherein the processor is further to compare the resulting pattern of bits to a second predefined pattern of bits to determine whether the resulting pattern of bits matches the second predefined pattern of bits.

21. (Original) The computer of claim 19, wherein the selected bits are contiguous.

22. (Canceled)

23. (Original) The computer of claim 19, wherein the resulting pattern of bits matches the predefined pattern of bits when the bits of the resulting pattern are identical to the bits of the predefined pattern of bits and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern of bits.

24. (Currently Amended) A node, comprising a processor to:

select a predetermined number of bits from a data stream received from a remote device via a communication network;

apply a message digest function to the selected bits;

determine whether a pattern of bits resulting from the application of the message digest function to the selected bits matches a predefined pattern of bits stored in a search table, the search table including at least one entry pointing to a sub-table of the search table; [[and]]

facilitate communication with the remote node via the communication network in accordance with a matched pattern of bits in the received data stream;

compare the selected bits from the data stream to a second predefined pattern stored in the search table when the resulting pattern of bits matches the predefined pattern; and

identify the selected bits from the data stream as a match when the selected bits from the data stream match the second predefined pattern, wherein the search table includes: a root table; at least one trie sub-table; at least one strand sub-table; at least one match sub-table; and at least one wildcard sub-table.

25. (Original) The node of claim 24, wherein the processor is further to compare the resulting pattern of bits to a second predefined pattern of bits to determine whether the resulting pattern of bits matches the second predefined pattern of bits.

26. (Original) The node of claim 24, wherein the selected bits are contiguous.

27. (Canceled)

28. (Original) The node of claim 24, wherein the resulting pattern of bits matches the predefined pattern of bits when the bits of the resulting pattern of bits are identical to the bits of the predefined pattern of bits and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern of bits.